

REMARKS

Claims 1, 3-10, 12-17, 19-20, 34, 39, 41, and 43-48 were presented for examination in the present application. The instant amendment cancels claims 43-44 without prejudice and adds new claims 49 and 50. Thus, claims 1, 3-10, 12-17, 19-20, 34, 39, 41, and 45-49 are pending upon entry of the instant amendment.

Claims 1, 45, 49, and 50 are independent.

Independent claims 1 and 45, as well as dependent claims 3-7, 9-10, 12-17, and 47-48, were rejected under 35 U.S.C. §103(a) over U.S. Patent No. 4,374,391 to Camlibel et al. (Camlibel) in view of U.S. Patent No. 4,001,049 to Baglin (Baglin) and U.S. Patent No. 4,855,026 to Sioshansi (Sioshansi). Dependent claims 8 and 46 were rejected under 35 U.S.C. §103(a) over the proposed combination of Camlibel, Baglin, and Sioshansi in further view of U.S. Patent No. 4,889,960 to Butt (Butt). Dependent claims 19-20, 34, and 39 were rejected under 35 U.S.C. §103(a) over the proposed combination of Camlibel, Baglin, and Sioshansi in further view of U.S. Publication No. 2002/0019069 to Wada et al. (Wada). Dependent claims 43 and 44 were rejected under 35 U.S.C. §103(a) over the proposed combination of Camlibel, Baglin, and Sioshansi in further view of U.S. Patent No. 3,204,023 to Harmon (Harmon).

For purposes of appeal, Applicants maintain that Baglina and Sioshansi are non-analogous art as to the present application.

The Office Action merely asserts that Baglina and Sioshansi both disclose glasses generally and that anyone skilled in the art of glasses would be familiar with many glasses. Applicants respectfully maintain that such an assertion is insufficient to establish that Baglin and Sioshani are analogous art to the present application in light of the holdings of *In re Oetiker*, 977 F.2d 1443, 1446, 24 USPQ2d 1443, 1445 (Fed. Cir.

1992); *In re Deminski*, 796 F.2d 436, 230 USPQ 313 (Fed. Cir. 1986); *In re Clay*, 966 F.2d 656, 659, 23 USPQ2d 1058, 1060-61 (Fed. Cir. 1992); and *Wang Laboratories Inc. v. Toshiba Corp.*, 993 F.2d 858, 26 USPQ2d 1767 (Fed. Cir. 1993).

Nonetheless, and presuming arguendo that Baglin and Sioshani are analogous art to the present application (which they are not), Applicants submit that the proposed combination of cited art fails to disclose or suggest present claim 1.

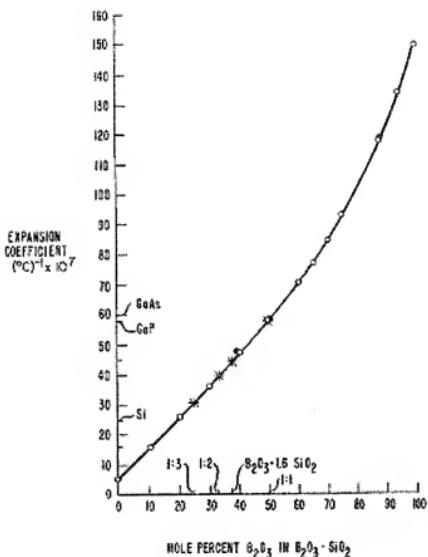
Independent claim 1 has been clarified by amendment to include elements of claims 43 and 44, which have been cancelled. Thus, claim 1 now recites the steps of “vapor-coating the first substrate side with a glass layer, wherein the glass layer has a composition, in percent by weight, comprising: SiO₂ 75 to 85; B₂O₃ 10 to 15; Na₂O 1 to 5; Li₂O 0.1 to 1; K₂O 0.1 to 1; and Al₂O₃ 1 to 5, or comprising: SiO₂ 65 to 75; B₂O₃ 20 to 30; Na₂O 0.1 to 1; Li₂O 0.1 to 1; K₂O 0.5 to 5; and Al₂O₃ 0.5 to 5 (emphasis added)”.

The Office Action asserts, with respect to claims 43 and 44, Camlible discloses a glass layer that has a composition, in percent by weight, of the claimed ranges of SiO₂ and B₂O₃ and differs only by not explicitly disclosing the fractions of the claimed trace compounds Na₂O; Li₂O; K₂O; and Al₂O₃. Rather, the Office Action asserts that Harmon discloses these trace compounds.

Applicants respectfully disagree.

Specifically, Applicants submit that the composition disclosed by Camlible is provided in mole percent and not weight percent as claimed. For ease of analysis, Figure 1 of Camlible is reproduced below. As can be seen from the index along the x-axis, the composition is disclosed with respect to mole percentage.

FIG. 1



Moreover, Applicants submit that converting the mole percents disclosed by Camlible to weight percents results in clearly different amounts.

Specifically, Camlible discloses that the borosilicate glass layer consists essentially of up to 60 mole percent B_2O_3 and, preferably, of up to 5 to 45 mole percent B_2O_3 as in claims 29 and 30. This corresponds to a glass layer with a composition in weight percent of up to 63% B_2O_3 , preferably 6 to 49%.

In contrast, the glass layers of present claim 1 require a composition, in weight percent, of B₂O₃ 10 to 15 or 20 to 30. Thus, Applicants submit that the broad and preferred ranges of materials disclosed by Camlibe fail to disclose or suggest the specific ranges recited by claim 1 where such ranges have been determined by the present disclosure to be necessary for the direct formation of the glass layer.

Moreover, Applicants submit that Camlibe discloses against the combination of its glass composition with the trace compounds disclosed by Harmon. Specifically, Camlibe discloses that the initial step is to measure out (usually by weighing) the amounts of SiO₂ 65 to 75 and B₂O₃ desired in the borosilicate glass. Although ordinary purity (i.e., 99 wt. percent) is often satisfactory, for some applications extremely high purity (99.99 or even 99.999 weight percent) is preferred. See col. 4, lines 8-13.

Thus, Camlibe requires very high purity and, in fact, teaches away from the addition of the trace compounds of Harmon in the manner as proposed by the Office Action.

Moreover, Applicants submit that there is no hint or suggest that the glass of Harmon is suitable for vapor deposition. Rather, Harmon discloses that its sealing ability comes from melting the glass in a furnace. See col. 2, lines 62-69.

The Office Action fails to assert that any of the remaining references, namely Butt or Wada, disclose or suggest the combination recited by present claim 1.

Accordingly, Applicants submit that the proposed combination of cited art simply fails to disclose or suggest the method recited by present claim 1. Claim 1, as well as claims 3-10, 12-17, 19-20, 34, and 39-44 that depend therefrom, are in condition for allowance. Reconsideration and withdrawal of the rejection to claims 1, 3-10, 12-17, 19-20, 34, and 39 are therefore respectfully requested.

Independent claim 45 has been clarified by amendment in a manner similar to claim 1 discussed in detail above. Specifically, present claim 45 now recites, in part, the step of "generating a vapor by generating an electron beam and impinging the electron beam onto a glass target of the vapor-deposition glass source to vapor-coat the first side with a glass layer" where the glass layer has "a composition, in percent by weight, comprising: SiO₂ 75 to 85; B₂O₃ 10 to 15; Na₂O 1 to 5; Li₂O 0.1 to 1; K₂O 0.1 to 1; and Al₂O₃ 1 to 5, or comprising: SiO₂ 65 to 75; B₂O₃ 20 to 30; Na₂O 0.1 to 1; Li₂O 0.1 to 1; K₂O 0.5 to 5; and Al₂O₃ 0.5 to 5 (emphasis added)".

Thus, the glass layers of present claim 45 require a composition, in weight percent, of B₂O₃ 10 to 15 or 20 to 30. Applicants submit that the broad and preferred ranges of materials disclosed by Camlible fail to disclose or suggest the specific ranges recited by present claim 45 where such ranges have been determined by the present disclosure to be necessary for the direct formation of the glass layer.

Moreover, Applicants submit that Camlible discloses against the combination of its glass composition with the trace compounds disclosed by Harmon. Specifically, Camlible requires very high purity (i.e., 99 wt. percent) and, for some applications extremely high purity (99.99 or even 99.999 weight percent), which teaches away from the addition of the trace compounds of Harmon in the manner as proposed by the Office Action.

Moreover, Applicants submit that there is no hint or suggest that the glass of Harmon is suitable for vapor deposition. Rather, Harmon discloses that its sealing ability comes from melting the glass in a furnace. See col. 2, lines 62-69.

The Office Action fails to assert that any of the remaining references, namely Butt or Wada, disclose or suggest the combination recited by present claim 45.

Accordingly, Applicants submit that the proposed combination of cited art simply fails to disclose or suggest the method recited by present claim 45. Claim 45, as well as claims 46-48 that depend therefrom, are in condition for allowance. Reconsideration and withdrawal of the rejection to claims 45-48 are therefore respectfully requested.

Claims 49-50 have been added to point out various aspects of the present application. Support for new claims 49-50 can be found in the present application at least in original claim 1, as well as at pages 11 and 12. No new matter is added.

Applicants specifically point out that claims 49-50 are not intended to be limited to the specific mechanisms of patentability previously argued with respect to any prior claims in this or any related applications. Accordingly, Applicants hereby rescind any disclaimer of claim scope and, thus, any prior art for which such a disclaimer was made to avoid may need to be revisited by the Examiner with respect to claims 49-50.

Claims 49 and 50 are each believed to be in condition for allowance. For example, claim 49 recites, in part, the step of vapor coating, where this vapor coating step is "sufficient to provide the glass layer with a composition, in percent by weight, comprising: SiO₂ 75 to 85; B₂O₃ 10 to 15; Na₂O 1 to 5; Li₂O 0.1 to 1; K₂O 0.1 to 1; and Al₂O₃ 1 to 5 (emphasis added)".

Similarly, claim 50 recites, in part, the step of vapor coating, where the vapor coating step is "sufficient to provide the glass layer with a composition, in percent by weight, comprising: SiO₂ 65 to 75; B₂O₃ 20 to 30; Na₂O 0.1 to 1; Li₂O 0.1 to 1; K₂O 0.5 to 5; and Al₂O₃ 0.5 to 5 (emphasis added)".

Applicants submit that the cited art fails to disclose or suggest the claimed step of vapor coating that is sufficient to provide the glass layer with the composition required by claims 49 and 50. Thus, claims 49 and 50 are each in condition for

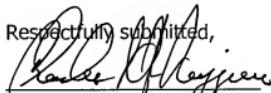
allowance.

In view of the above, it is respectfully submitted that the present application is in condition for allowance. Such action is solicited.

If for any reason the Examiner feels that consultation with Applicants' attorney would be helpful in the advancement of the prosecution, the Examiner is invited to call the telephone number below.

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Respectfully submitted,


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